

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listing, of claims in the application:

Listing of Claims:

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1. (Previously Presented) A device for testing a material that changes shape when at least one of an electric field and a magnetic field is applied, comprising:
a generator for generating at least one of the electric field and the magnetic field and applying the at least one of the electric field and the magnetic field to the material;
at least one thermal sensor for detecting a change in temperature of the material associated with the at least one of the electric field and the magnetic field;
and
a measurement unit for measuring a change in shape of the material after the at least one of the electric field and the magnetic field is applied.
 2. (Original) The device according to claim 1, wherein:
the material includes a piezoactive material.
 3. (Original) The device according to claim 1, wherein:
the at least one thermal sensor includes a radiation detector for detecting electromagnetic radiation.
 4. (Original) The device according to claim 1, wherein:
the at least one thermal sensor has a local resolution.

5. (Previously Presented) The device according to claim 1, further comprising:

an imaging unit for obtaining an image of the material.

6. (Previously Presented) The device according to claim 1, further comprising:

a unit for varying at least one of the electric field and the magnetic field generated by the generator.

7. (Previously Presented) The device according to claim 1, further comprising:

a unit for periodically varying at least one of the electric field and the magnetic field generated by the generator.

8. (Original) The device according to claim 1, wherein:
the material is arranged on a substrate.

9. (Original) The device according to claim 8, further comprising:

an arrangement for performing a temperature control of the substrate.

10. (Original) The device according to claim 1, wherein:
an electric contacting is arranged on the material.

11. (Previously Presented) The device according to claim 1, further comprising:

a detection unit for detecting a portion of a

heating of the material attributed to an electric current associated with the at least one of the electric field and the magnetic field.

12. (Previously Presented) The device according to claim 11, further comprising:

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an analyzer unit for compensating a temperature increase detected by the at least one thermal sensor, in the material, with the portion of the heating of the material attributed to the electric current.

13. (Previously Presented) The device according to claim 8, wherein:

at least two different test areas are provided on the substrate, the at least two different test areas including different materials.

14. (Original) The device according to claim 8, wherein:

a plurality of different test areas are arranged in a grid pattern on the substrate.

15. (Canceled)

16. (Previously Presented) The device according to claim 1, further comprising:

an optical measurement unit for measuring a change in at least one of a shape and a length of the material.

17. (Previously Presented) The device according to claim 1, wherein the at least one thermal sensor includes a non-optical thermal sensor.

18. (Previously Presented) The device according to claim 5, wherein the imaging unit includes at least one of a photographic unit and a camera unit.

19. (Previously Presented) The device according to claim 7, wherein the at least one of the electric field and the magnetic field varies periodically as one of a sinusoidal change and a square-wave change.

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20. (Previously Presented) The device according to claim 9, wherein the arrangement for performing a temperature control of the substrate includes at least one of a climate chamber, a heating device, and a cooling device.

21. (Previously Presented) The device according to claim 1, wherein the electric contacting includes at least one of a sputtered metal layer and a glued metal layer.

22. (Currently Amended) A device for testing a material that changes shape when at least one of an electric field and a magnetic field is applied, comprising:
a generator for generating at least one of the electric field and the magnetic field and applying the at least one of the electric field and the magnetic field to the material to produce a change in shape or size of the material;

a camera configured to capture an image of the material after the at least one of the electric field and the magnetic field is applied to the material; and

an analyzer unit configured to determine [a] the change in shape or size of the material based on the captured image.